American Society for Testing Materials BULLETIN

ISSUED BI MONTHLY

Review of Annual Meeting

New Officers

Exhibit of Testing Apparatus

New Tentative Standards

Forthcoming Publications

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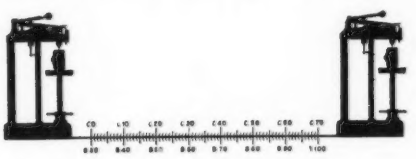

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American Society for Testing Materials

BULLETIN

ENGINEERS' CLUB BUILDING 1315 SPRUCE STREET PHILADELPHIA, PA.

NUMBER 63 JULY 31, 1933

Extensive Standardization Work Marks 1933 Annual Meeting

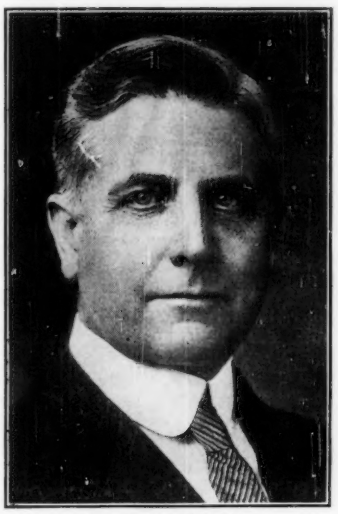
Interesting and Important Committee Reports and Technical Papers Presented

THE 1933 annual meeting held in Chicago, June 26–30, was marked by the great progress made in the standardization work of the Society. The tentative specifications and test methods recommended for adoption as standard totaled 57; revisions in 74 standards were adopted, and as the result of action taken at the meeting 36 new specifications and methods of test will be published as tentative. Technical papers and reports presented during the meeting received much favorable comment and each was indicative of progress made and resulted in a better understanding of some materials' problem. Descriptions of new testing equipment and improved methods of testing various materials, subjects which are always important features of the meeting, were again prominent this year. The session in which the Marburg Lecture was presented drew a large audience which heard one of the most important and interesting lectures presented in the series. A very general summary of the Lecture is given on page 4.

Attendance at the sessions of the meeting and at the committee meetings was quite up to average despite a somewhat subnormal registration. The registration totaled 700. During the week-end prior to the meeting and throughout the week, there were some 125 meetings of committees.

The Second Exhibit of Testing Apparatus was in progress throughout the five days of the meeting and members found much of interest in the industrial and research displays. (See page 5 for outline of Exhibit.)

President
(1933-1934)



T. R. LAWSON

Technical Presentations

The program contained 49 reports giving detailed recommendations of Society committees, and 33 technical papers. In addition to the 13 sessions in which these papers and reports were presented, there was a round table discussion on spectrographic analysis and an open meeting of the Committee on Interpretation and Presentation of Data, both of which were well attended. The Society also took part in the joint sessions dealing with fundamental problems of mutual interest to economists and engineers.

Two items on the program were preëminent, namely, the Symposium on Cast Iron and the Report on Significance of Tests of Concrete and Concrete Aggregates.

The Cast Iron Symposium, which is the third symposium in the series being jointly sponsored by the American Foundrymen's Association and the Society, is a critical compilation, correlation and interpretation by experts and contains much hitherto unpublished data. The sections in the symposium cover the many technical phases involved in the production and use of cast iron.

The Significance of Tests of Concrete and Concrete Aggregates, which discussion is a part of the annual report of Committee C-9, consists of 17 sections, ten of which are devoted to critical discussions of tests for characteristics of concrete, six discuss aggregate tests and there is also included a paper on statistical data. This report gives an effective summation of the significance, limitations and applicability of the more widely used test, including a discussion of their importance and other pertinent facts.

In the field of ferrous metals, several papers of interest were presented including a discussion of a newly devised impact test in torsion used especially for hard materials such as tool steel. This test promises to be of importance in the study of tool steels because it gives important data not revealed by ordinary impact tests. One of the papers brought out the fact that steel of structural grade showed a wide variation in ratio of shear-yield point to yield point in tension, the ratio in general being below 0.60.

An "overnight" accelerated fatigue test which was described attracted considerable interest. The specimens are run overnight in a rotating-beam fatigue machine and are then tested in tension. The endurance limit is read from the plot of the data obtained, the theory of the test being based on the premise that below the endurance limit repeated flexure increases the strength by cold work, while above the endurance limit, cracks develop which reduce the tensile strength.

A strong non-ferrous metals program marked the meeting.

It was pointed out in one of the papers that iron when added to cast red brass (85 Cu, 5 Sn, 5 Zn, 5 Pb) improved all physical properties with the exception of electrical resistivity, and that both sulfur and iron improve the running qualities with no effect on shrinkage. A comparison of certain tin-base and cadmium-base bearing alloys described in another paper indicated that cadmium-base were better at elevated temperatures, and motor tests showed that these alloys continued to function after the tin-base metals had failed. Since tin is controlled abroad and fluctuates widely in price, domestic cadmium may compete with foreign tin for bearing metals even where the ability to stand up at high temperatures is not required.

Lead additions to three tin-base alloys in amounts of 3 to 4 per cent increase the hardness up to 100 C. according to another author.

One of the papers gave a considerable amount of fatigue data for nearly all the commercial light alloys of aluminum and for several magnesium-base alloys. It is pointed out that the number of cycles of stress required to define the endurance limits of light alloys was of the order of 500,000,000.

Of particular interest to the cement industry was a paper on "Status of Specifications for Hydraulic Cements in the United States" in which the author advocated instead of one type cement no less than 6 or 7 special cements including high-early-strength cement, plastic cements and those of low-heat generation and hardening, those having low volume changes, cements offering resistance to sea water and other aggressive solutions, and two of a character similar to our present standard cement, but one lower in lime and higher in silica than the other. Three papers on bricks and brick masonry were of special interest to the ceramic industry. Data on shear and bending strengths of reinforced brick beams were given in one of these in which it is concluded that the development of a high degree of flexural strength in reinforced brick beams is entirely possible. The results of a survey of bricks produced throughout the United States were given, presenting the very interesting data obtained. The weighted averages for the hundreds of samples tested showed a flat compressive strength of 7246 lb. per sq. in. with a modulus of rupture of 1154 lb. per sq. in. An hypothesis on the permeability of brick masonry walls was also presented. This drew some interesting discussion from the floor.

Vice-President
(1933-1935)

HERMANN VON SCHRENK

An agglutinating value test for coal which gives information on the coking and caking properties was described. As a result of the studies on the possibility of determining surface in pulverized coal by the amount of dye adsorbed, it was indicated that because the adsorption per unit of surface is not the same for different coal this method is not practicable.

Committee Reports

The reports of Society committees were of unusual importance this year due to the intense work which each group has put on the specifications and test methods under its jurisdiction. The customary method of presenting reports was modified and chairmen were authorized unless some objection arose to group recommendations on which the annual meeting voted, thus giving more time to discuss in an informal way interesting phases of the work which may not have been touched on in the printed report. This new procedure met with wide approval and stimulated interest in the committees' work.

General Session

The session on Monday evening was devoted to reports of administrative committees, presentation of the President's address and award of the Dudley Medal. Some of the major points in the President's address are outlined below.

The Seventh Award of the Charles B. Dudley Medal was made to Samuel Epstein, Metallurgist, Battelle Memorial Institute, (see page 4) for his report on "Embrittlement of Hot-Galvanized Structural Steel" presented last year, which gave the results of the extensive research work sponsored by Committee A-5 on Corrosion of Iron and Steel. This award which was established as a means of stimulating research in materials and of recognizing meritorious contributions, commemorates the name of the Society's first President.

The report of the tellers appointed to canvass the ballot on election of officers was presented by H. G. Farmer. This canvass showed that 820 legal ballots had been cast and the officers were declared unanimously elected.

This session was followed by an informal reception to the new officers and members of the Executive Committee in which an opportunity was afforded members to meet the new officers.

Presidential Address—"Introspection"

Using as the title of his address "Introspection," the retiring president, Cloyd M. Chapman, submitted a thought-provoking survey of the Society by considering it as a special machine for producing specifications which harmonize the viewpoints of the consumer and producer. He sketched the development of a manufacturing process in its early stages to the point where the maker and user begin to appreciate each other's requirements and viewpoints which in a broad sense was the ground work for the development of A.S.T.M. As the value and usefulness of this "cooperation" idea increased, there developed a need for a test-and-specification-making machine. This new "machine" came on the market in 1902. There were only nine working parts relating to ferrous metals, nonferrous metals, cement, brick and road materials, but the machine rapidly became more complex until at the present time there are more than 50 parts relating to every major industry in the country.

Mr. Chapman discussed the high reputation of the present machine and pointed out that its working assemblies (committees and their personnel) are of high quality and special selection. It is a machine built for utility and serviceability and it has wide adaptability. Its production has recently been speeded up (Committee E-10 was formed to approve

(*concluded on page 4*)

A. E. WHITE A. C. FIELDNER C. N. FORREST J. C. PEARSON F. A. BARBOUR

New Officers

The recent election of officers, as announced at the annual meeting, resulted in the unanimous election of Prof. T. R. Lawson as President (1933 – 1934), Dr. Hermann von Schrenk as Vice-President (1933 – 1935) and the following as members of the Executive Committee (1933 – 1935): Messrs. F. A. Barbour, A. C. Fieldner, C. N. Forrest, J. C. Pearson, and A. E. White.

President

T. R. Lawson, the new President, is Head of the Department of Civil Engineering, Rensselaer Polytechnic Institute, Troy. He was graduated from Rensselaer in 1898 with the degree of civil engineer and became an instructor in the civil engineering department. He was successively assistant and associate professor and since 1908 has been Professor of Rational and Technical Mechanics. He has been Head of the Civil Engineering Department since 1921. Professor Lawson has conducted many important researches on the welding of structural steel, various researches on concrete and its constituent materials, on brick, etc., and he has rendered consulting service on many structural and hydraulic projects. From 1922 to 1930 he was chairman of Committee C-3 on Brick and he headed Committee E-10 on Standards from its inception in 1929 until this year.

Vice-President

Hermann von Schrenk, newly elected Vice-President, is Consulting Timber Engineer, St. Louis, Mo. He is a graduate of the following universities: Cornell, 1893, B.S.; Harvard, 1894, A.M.; Washington University, 1898, Ph.D. Doctor von Schrenk was pathologist, in charge Mississippi Valley Laboratory, U. S. Department of Agriculture, 1898 – 1907 and in charge of timber investigations, special agent and chief, Forest Products, Bureau of Forestry, U. S. Department of Agriculture, 1901 – 1905. He is consulting timber engineer for many railroads and has written several books on timber and its preservation. He has been chairman of A.S.T.M. Committee D-7 on Timber since 1904.

Members of Executive Committee

F. A. Barbour, Consulting Hydraulic and Sanitary Engineer, Boston, Mass., is a graduate of the University of New Brunswick. He spent ten years in railroad work and in municipal work, chiefly water supply and sewage disposal work before engaging in private practice. He has designed and supervised the construction of a great number of water supply and sewer and sewage disposal systems. He has directed several important researches on cast-iron pipe and on clay pipe.

A. C. Fieldner, Chief Engineer, Experiment Stations Division, U. S. Bureau of Mines, Washington, D. C., graduated in 1906 from Ohio State University as chemical engineer. After being fuels chemist in the U. S. Geological Survey, he was placed in charge of the fuels chemical laboratory and the gas investigations laboratory of the U. S. Bureau of Mines. In 1921, he was given charge of the Pittsburgh station and later also became chief chemist of the Bureau of Mines. He has held his present position since 1927.

C. N. Forrest, Special Representative, The Barber Asphalt Co., Philadelphia, Pa., was chemist and inspector of the Long Island Railroad until 1904 when he became chief chemist, New York Testing Laboratories. When they became a part of The Barber Asphalt Paving Co., he continued in this position until 1923 when he was made manager of the technical department. In 1927 he was appointed special representative, and also Technical Director of The Trinidad Lake Asphalt Operating Co., Ltd.

J. C. Pearson, Director of Research, Lehigh Portland Cement Co., Allentown, Pa., was graduated from the following universities: Bowdoin, 1900, A.B.; Harvard, 1903, A.M. He was instructor in mathematics and physics at Bowdoin until 1905 when he became magnetic observer, Carnegie Institution of Washington. He was associate physicist and later physicist, U. S. Bureau of Standards from 1910 to 1924, when he joined the research division, Lehigh Portland Cement Co.

A. E. White, Professor of Metallurgical Engineering and Director, Department of Engineering Research, University of Michigan, Ann Arbor, Mich., is a graduate of Brown University, 1907. He was in charge of research on blast-furnace by-products, ores, etc., for Jones & Laughlin Steel Co. until 1911 when he became instructor at the University of Michigan. He was assistant professor 1913 to 1917. From 1917 to 1919 he was head of the metallurgical inspection division, Ordnance Department of the U. S. Army. He was appointed to his present positions in 1920.

1933 Annual Meeting

(Continued)

for publication as tentative proposed standards submitted in the intervals between annual meetings). Mr. Chapman said: "In this machine age it has become very popular to give service with a product. The producer follows up the product to see if repairs or replacement of parts are necessary. We should and do perform this type of service. We discard old models and replace them with our latest product. (See page 10.) Periodically we should check up and ascertain whether any of our products are out of date, unused, and if so promptly discard them or offer new and up-to-date models in their place.

"You and I are parts of this standards-making machine. The product is standard tests and specifications. It is an intelligent machine, and therein it differs from ordinary machines.

"We are not only the working parts of this machine, but we are responsible for its output, for its up-to-dateness, for improvements in both the machine and the product.

"It is worthy of our careful and thoughtful study. If we are clever we can improve it. Study A.S.T.M., inspect it and test it, strive to improve it to the highest degree of perfection."

Edgar Marburg Lecture

The Eighth Edgar Marburg Lecture was presented on Tuesday afternoon in a joint session of the Society and the American Association for the Advancement of Science. Dr. H. J. Gough, Superintendent of the Engineering Division, British National Physical Laboratory, discussed "Crystalline Structure in Relation to Failure of Metals Especially by Fatigue," a subject of great importance to all engineers and especially to those in the structural field.

The speaker pointed out how modern knowledge of the atom has changed our views of the cohesion and strength of materials, especially of metals. A piece of metal is made up of millions of tiny crystalline grains; each grain in turn is made up of a regular geometrical arrangement of millions of atoms. The pattern of arrangement of these atoms in each grain is just alike, but the direction of the lines and planes of the pattern is different for each grain.

Doctor Gough for some ten years has been studying the strength of specimens of metal so prepared that each specimen consists of a single large grain. He has found that as the specimen is repeatedly loaded the crystal breaks up into a large number of little "crystallites," and he thinks that the paths of the electrons or the atoms around the nuclei may be affected. The first effect of this action is to actually strengthen the material, but if it goes on long enough, in the process of break-up of crystals, atoms at critical points seem to get torn apart, and if this process continues a spreading crack results. This, he thinks, is the beginning of the sudden, disastrous failure, popularly known as "fatigue of metals."

The lecture was illustrated by photomicrographs of metals which had been subjected to stress, and the lecture constitutes a very important fundamental summary of our present-day knowledge of the nature of solid bodies. This is a field in which very little work has been done, the atomic physicists having confined their attention almost exclusively to gases.

Dudley Medalist

SAMUEL EPSTEIN

Standardization

In addition to the actions mentioned in the opening paragraph on page one, the annual meeting also approved for publication as tentative, proposed revisions in 16 existing standards. Revisions in 25 tentative standards were also accepted and will be immediately incorporated in the various tentative specifications and test methods. All new and revised tentative standards and tentative revisions of standards will be published in the *Proceedings* and all tentative standards will, of course, be included in the current Book of Tentative Standards. A list of the 22 specifications and test methods, both tentative and standard, which are to be withdrawn is given on page 10. The table below summarizes meeting actions.

Chicago Committee Deserves Credit

Members of the Chicago District Committee are to be commended for the excellent way in which arrangements for the annual meeting were handled. Under the direction of the officers, H. G. Farmer, Chairman, H. H. Morgan, Vice-Chairman, and Frank Randall, Secretary, and of the chairmen of subgroups, Messrs. L. S. Marsh, H. P. Bigler, T. L. Condron, H. B. Emerson and F. L. Crane, the plans were splendidly executed.

SUMMARY OF ACTIONS TAKEN AT ANNUAL MEETING AFFECTING STANDARDS AND TENTATIVE STANDARDS

	Existing Tentative Standards Adopted as Standard	Standards in Which Revisions Will Be Adopted	Proposed Standards Approved for Publication as Tentative	Proposed Revisions of Existing Standards Accepted as Tentative	Tentative Standards Revised	Total Standards Adopted	Total Tentative Standards
A. Ferrous Metals—Steel, Cast Iron, Wrought Iron, Alloys, etc	14	28	6	2	7	103	28
B. Non-Ferrous Metals—Copper, Zinc, Lead, Aluminum, Alloys, etc	6	10	..	..	2	75	14
C. Cement, Lime, Gypsum, Concrete and Clay Products	2	7	8	9	1	60	37
D. Paints, Petroleum Products, Coal, Textiles, Rubber, etc	31	28	17	5	14	219	118
E. Miscellaneous Subjects, Testing, etc	4	..	2	..	1	13	9
Sectional and Research Committees	..	1	3	..	..	1	3
Total	57	74	36	16	25	471	209

Interesting Exhibit of Testing Apparatus Held

Displays of Industrial and Research Apparatus Indicate Considerable Progress

MANY of the expressions of opinion on the Second Exhibit of Testing Apparatus and Equipment held in Chicago during the week of the annual meeting referred to the interesting displays of special machines and apparatus. The Exhibit comprised 17 booths, nine of which were sponsored by companies producing industrial testing equipment. These industrial displays featured new equipment and older type apparatus which had been redesigned and improved.

Displays by Society Committees

Five of the Society's standing committees took advantage of the opportunity offered by the Exhibit to sponsor displays of equipment and materials directly relating to their work. Two of the displays featured work on corrosion.

Committee A-10 on Iron-Chromium, Iron-Chromium-Nickel and Related Alloys showed through the courtesy of the Republic Steel Corp. the apparatus used by its Subcommittee IV in studies to develop methods of corrosion testing. The salt spray test and the boiling nitric acid test were in constant operation and specimens of four different alloys showed stages of corrosion after exposure to these tests.

The display of Committee B-3 on Corrosion of Non-Ferrous Metals and Alloys was of considerable interest. Subcommittee VI on Atmospheric Corrosion showed specimens of 24 non-ferrous metals and alloys which had been exposed for about a year at nine different test locations. Visual inspection of these specimens gave a very good idea of the amount and character of the corrosion product films on the specimens and the effect of the different atmospheric conditions on them. Subcommittee VIII on Galvanic and Electrolytic Corrosion exhibited specimens of the several metals which in couple combinations had been in the outdoor exposure tests.

Committee B-4 on Electrical-Heating, Electrical-Resistance and Electric-Furnace Alloys showed the flexure test machine which has been designed for testing thermostatic bimetallic strip and other elastic materials under uniform bending. This machine is adapted for working at high temperatures and is particularly useful where elastic temperature data are desired.

Committee D-9 on Electrical Insulating Materials showed the aluminum block oven which was developed to overcome the explosive hazard when the Sligh test is used. The Westinghouse Research Laboratories cooperated in the displays of both Committees B-4 and D-9.

Committee C-7 on Lime showed the apparatus which it has developed and materials used in testing the spreading power of lime putty.

Displays by Research Laboratories

The displays sponsored by various institutional and association research laboratories were of much interest in showing how difficult problems in connection with studies of materials and various industrial problems were met. The American Society of Heating and Ventilating Engineers through its research laboratory showed the Nicholls heat flow meter which has been extensively used in the determinations of heat transfer through walls, roofs and floors; the hot plate apparatus for determining effect of density and moisture content on the thermal conductivity of wood used in construction; and apparatus used for testing air-cleaning devices.

The Cement Reference Laboratory at the U. S. Bureau of Standards exhibited the turbidimeter which has been developed for the fineness testing of cement.

Lewis Institute of Chicago showed some of the equipment developed in its testing laboratory including a torsion deformometer, special extensometer and a solenoid-oscillograph for measuring vibration. The Chemical Engineering Department of Ohio State University showed the modified rate-of-settling apparatus which it is using in determining the fineness of portland cement.

The Engineering Research Department of the University of Michigan had an extensive and very interesting display. One of the interesting devices was a profilograph for magnifying the roughness of machined surfaces 2000 times. Fuel measuring equipment used in the automotive laboratory, extensometer equipment used in researches on creep of metals at elevated temperatures and a special stroboscope were also shown. An apparatus and set-up for the non-destructive testing of welded pipe was illustrated.

Westinghouse Research Laboratories demonstrated the high-temperature creep test furnace of the modified Rohn type which it developed to study strength-temperature relations for metals where stress and temperature are high enough to cause plastic deformation.

Industrial Exhibitors

Each of the industrial exhibitors who cooperated in making the Exhibit a success arranged his display to be especially instructive and interesting to the technical men and engineers who constituted the major portion of those visiting the Exhibit. Members who had attended the first exhibit two years ago found that there has been much new equipment developed in the testing field and that a great deal of equipment of the older type has been improved.

The following list includes the exhibitors and some of the apparatus on display in their booths:

Baldwin-Southwark Corp., Southwark Division
Universal testing machine; proving ring; torsion impact tester; tensometers; strain gage; scratch extensometer; cold bend tester; mortar cube tester.

Christian Becker, Inc.
Becker balances; torsion balances; weights.

Central Scientific Co.
Viscosimeters; vacuum ovens; hyvac pump; forced circulation oven; grating spectrograph; thermoregulators and control units; rotating shelf mechanism; surface tension apparatus; laboratory rheostats.

Kimble Glass Co.
Line of laboratory glassware featuring apparatus used in A.S.T.M. tests.

Precision Scientific Co.
A.S.T.M. testing apparatus.

E. H. Sargent and Co.
Braun grinding and crushing equipment; electric ovens; tintometer equipment; glassware used in A.S.T.M. tests; analytical balances; gas analysis apparatus; thermostatic water bath; microscopes; Spencer hardness testing apparatus.

C. J. Tagliabue Manufacturing Co.
Instruments for indicating, recording and controlling temperature, pressure, flow and liquid levels; electrical recording pyrometers (photo-electric type); oil testing instruments; apparatus for indicating moisture content in wood and grain.

Waukesha Motor Co.
A.S.T.M. – C.F.R. unit used to determine the knock characteristics of gasolines.

Wilson Mechanical Instrument Co., Inc.
Rockwell hardness tester; Rockwell superficial hardness tester.

AMERICAN SOCIETY FOR TESTING MATERIALS

BULLETIN

Issued Bi-Monthly

Engineers' Club Building, 1315 Spruce St., Philadelphia, Pa.

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Number 63 July 31, 1933

The Society and the N.I.R.A.

THE Federal Government, through the National Industrial Recovery Administration, is undertaking a far-reaching cooperative program with Industry. It is seeking, through the establishment of industrial codes regulating hours of labor and wages and determining fair trade practices and competition, to help Industry to "help itself," first by stimulating re-employment and increasing purchasing power, and secondly by encouraging industrial self-government. Revival of employment and industry is also being sought in the construction of public works by federal, state and municipal authorities. The administrators of these programs face tasks of tremendous difficulty and responsibility, in a time of national economic emergency; we must all lend our effort towards the success of the work of industrial recovery that lies ahead.

It is in such spirit of cooperation and desire to make available the unique accomplishments and experience of the Society, that the Executive Committee has recently offered the assistance of the Society to the National Recovery Administration in any matters pertaining to the development and use of standards of quality of engineering materials. A.S.T.M. standards, already widely in use and mutually acceptable to producer and consumer, will aid definitely and materially in effectuating the policies of the Industrial Recovery Act; codes of fair practice must in the last analysis be based upon equitable standards, and the purchase of large quantities of construction materials for the public works program should wherever possible be based upon such standards. Moreover, there is immediately available in the Society the organization and experience to bring about the necessary cooperation between industries, or groups thereof, in the development of new standards, and these facilities have been placed at the disposal of the N.R.A.

This offer has been appreciatively received by the administrators of industrial recovery and of public works, and there will undoubtedly be many opportunities for the Society to contribute constructively and effectually in this recovery program.

Our New President Comments

Professor Lawson Points Out Three Major Objectives

ELECTION to the presidency of the American Society for Testing Materials is no small honor, and I am fully conscious of this fact. It is with a sense of deep humility that I accept this office because I know what it entails.

The success of the Society cannot be assured by any one man, and there is considerable satisfaction in knowing that it has an active Executive Committee, the members of which are alive to the needs of the Society and who are fully capable of directing its activities in such difficult times as these through which we have been passing.

With this Executive Committee back of me, I am contemplating the work of the Society for the coming year with a considerable degree of pleasure. The annual report of the Executive Committee has emphasized the necessity of bringing back the membership which has been temporarily lost due to the stringency of the times. This is a work which you as members of the Society must undertake. For no matter how capable your Executive Committee, the work will lag unless the membership is maintained. With the coming of more prosperous times, it therefore behooves each one of us to do his part by bringing in members.

For the coming year there are three objectives that I wish to present and to which your attention is directed:

First, an increase in membership, to the end that the excellent work the Society is now doing may be maintained and enlarged.

Second, an increase in our research fund. The time has come when it seems that an active effort might be made along this line.

Third, the improvement of our housing conditions in Philadelphia. It has long been a dream of many of us that the time would come when the inadequate, cramped, uncomfortable quarters now occupied by the Society might be exchanged for quarters more in keeping with the importance of our work. It is my earnest desire that active steps will be taken this year looking toward the accomplishment of this change.

In carrying out these objectives, I here and now solicit your assistance, and feel confident that if it is given, the year just beginning will be put down as one of the successful years of the Society.

President, 1933–1934

1933 Year Book Sent Members on Request

The Year Book of the Society is so widely used by the members that it has been decided this year to publish a complete year book rather than a supplement, as was done last year in the interest of economy. The 1933 edition, which will be sent to the members only on request, will contain the complete membership list. The committee section, giving complete personnel and officers of all A.S.T.M. committees will be included as well as the Society By-Laws, Regulations Governing Standing Committees, etc.

Each member who desires a copy of the 1933 Year Book should be sure to return promptly the enclosed request card.

Matters Referred to Letter Ballot

By action of the annual meeting an amendment to the By-laws and 131 recommendations from the standing committees affecting standards and tentative standards were referred to letter ballot of the membership. The revision of the By-laws provides for an enlargement of the scope of Committee E-10 on Standards to include the power of approving for publication as tentative, proposed revisions of existing standards. The 131 recommendations affecting standards and tentative standards comprise 57 tentative standards proposed for adoption as standards and revisions of 74 existing standards. A complete list of the items to be voted upon appears in the letter ballot enclosed with this BULLETIN. Detailed information concerning all matters referred to letter ballot is given in the committee reports issued in preprint form to the membership in advance of the meeting. The accompanying Summary of the Proceedings contains a record of the actions taken at the annual meeting and includes particularly the changes in or additions to the committee reports as preprinted.

All members in good standing are urged to execute the enclosed ballot and vote on the matters on which they feel technically qualified to pass judgment. With such an unusual number of items on the ballot its customary form has been modified in order that members interested in particular fields can readily locate the sections in which they are most interested and record their votes more easily.

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Society Appointments

Announcement is made of the following Society appointments:

Dr. Hermann von Schrenk, Consulting Timber Engineer, as the American representative on the Study Commission on Wood of the International Association for Testing Materials.

J. R. Townsend, Bell Telephone Laboratories, Inc., H. F. Gonnerman, Manager, Research Laboratory, Portland Cement Assn., and H. H. Morgan, Manager, Rail and Fastenings Dept., Robert W. Hunt Co., appointed members-at-large of Committee E-1 on Methods of Testing.

F. M. Farmer, Vice-President and Chief Engineer, Electrical Testing Laboratories, and G. W. Thompson, Chief Chemist, National Lead Co., re-appointed members-at-large of Committee E-8 on Nomenclature and Definitions.

P. H. Bates, Chief, Clay and Silicate Products Division, U. S. Bureau of Standards as a member of Committee E-9 on Research.

C. L. Hippensteel, Member of Technical Staff, Bell Telephone Laboratories, Inc., J. M. Weiss, President, Weiss & Downs, Inc., and M. O. Withey, Professor of Mechanics, University of Wisconsin, appointed members of Committee E-6 on Papers and Publications.

G. G. Oberfell, Research Director, Phillips Petroleum Co., as the Society's representative on the A.P.I. Committee on Testing Gas and Natural Gasoline, on the recommendation of Committee D-2 on Petroleum Products and Lubricants.

Gordon Thompson, Assistant Chief Engineer, Electrical Testing Laboratories, to represent the Society on the Sectional Committee on Electrical Measuring Instruments.

A. E. White, Professor of Metallurgical Engineering and Director of the Department of Engineering Research, University of Michigan, on the Joint Research Committee on Effect of Temperature on the Properties of Metals.

Special Committee on Membership Formed

The importance and necessity of stimulating the growth of membership in the Society has been given much consideration in recent months by the Executive Committee and as a result a Special Committee on Membership has been appointed to plan and direct this work. While the loss of Society membership—about 15 per cent from the peak of 1930—is not considered unduly large in view of conditions which have existed, it has created serious problems of administration and finance. Much of the loss, it is believed, will be regained with an improvement in business conditions, but work of the Society is expanding and branching into so many fields that additional stress must be laid on membership growth.

Articles in recent issues of the BULLETIN have indicated the convictions of Society officers that the most effective means of increasing Society membership is through the *personal efforts* of our members. One of the principal tasks of the special committee, therefore, will be to stimulate this interest in the Society and to mobilize and coordinate the efforts into the several channels in which the work can most effectively be advanced.

The personnel of this new committee is as follows:

K. B. Cook, *Chairman*, Technical Manager, Manville Jenckes Corp.
A. W. Carpenter, Manager, Testing Laboratories, The B. F. Goodrich Co.
H. G. Farmer, Technical Service Director, Universal Atlas Cement Co.
H. M. Hancock, Superintendent, Inspection Dept., The Atlantic Refining Co.
Inge Lyse, Research Assistant Professor, Fritz Engineering Laboratory, Lehigh University.
H. S. Vassar, Laboratory Engineer, Public Service Electric and Gas Co.

The Executive Committee earnestly bespeaks in advance for this group the sincere and cordial support of the A.S.T.M. membership.

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Closing Date for Discussion

Written discussion of the papers and reports presented at the recent annual meeting will be received by the Committee on Papers and Publications until September 1. Members are urged to submit their discussion as far in advance of the closing date as possible in order to facilitate the preparation of the material for the *Proceedings*.

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Price Scale for Separate Standards Revised

A revision in the scale of prices for separate copies of A.S.T.M. standards and tentative standards has just been authorized which will result in a very worthwhile saving to those who need a quantity of one standard or several assorted standards. The revised price scale is as follows:

For single copies and lots up to 9	25 cents per copy
For lots of 10 to 24	20 cents per copy
For lots of 25 to 99	17½ cents per copy
Quotations furnished on larger quantities	

A quantity order to which the above prices apply may consist of a single or assorted standards. The cost, for instance, of 20 copies of a single standard and for four copies of five different standards would be the same, etc.

By the old scale, one to 24 copies cost 25 cents each and for quantities of 25 to 100, a charge of 20 cents each was made. Thus, the economies offered in the new scale are considerable.

Heavy Publication Schedule for Balance of Year

Book of Standards and Several Special Publications Will Be Printed

WITH the Book of Standards (issued triennially) and several special books to be issued, in addition to the regular publications printed each year, an unusually heavy publication schedule is in prospect for the remainder of 1933. The 1933 issue of the Book of Standards will, of course, be more voluminous than the one issued in 1930 due to the large number of new standards adopted in the past three years. Included in the list of special publications are the Symposium on Motor Lubricants held in New York in March, the Symposium on Cast Iron—a feature of the recent annual meeting, and the annual report of Committee C-9 which includes the very extensive discussion on the "Significance of Tests of Concrete and Concrete Aggregates." The Marburg Lecture will also be made available separately in addition to its inclusion in the *Proceedings*.

Among the committees which this year are sponsoring the publication in a special form of all of the specifications, test methods, etc., under their jurisdiction are D-1 on Preservative Coatings for Structural Materials, D-2 on Petroleum Products and Lubricants, D-9 on Electrical Insulating Materials, D-13 on Textile Materials. These compilations are extensively used in the respective industries and by consumers and purchasing agents because they afford a concise reference to the A.S.T.M. standards, etc., with which these industries are especially interested.

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Textile Materials.—31 standard and tentative specifications, test methods and definitions of terms. (160 pages; ready September 15.)

A list of all the above publications with the various prices, in the form of an order blank, will be sent to each member in September.

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Alloys of Iron and Molybdenum

As a result of the research work of the Alloys of Iron Committee of the Engineering Foundation, the first volume in the series of monographs on the alloys of iron has now been published. Its title is "The Alloys of Iron and Molybdenum." Copies of the book at $6 each can be obtained from the publishers, McGraw-Hill Book Co., New York City.

New Tentative Standards Accepted

At the annual meeting the Society accepted 36 tentative standards of which 7 are revisions of existing standards, while 29 relate to materials not previously covered by A.S.T.M. standards. These new tentative standards, the titles of which are given below, include 25 new specifications, 10 methods of testing and 1 definitions of terms. The number of tentative standards, including those accepted at the meeting, now totals 209.

Ferrous Metals:

Specifications for Lap-Welded and Seamless Steel Pipe for High-Temperature Service (A 106 – 33 T) (revision of standard), submitted by Committee A-1.

Specifications for Heat-Treated Steel Elliptical Springs (A 147 – 33 T), submitted by Committee A-1.

Specifications for Alloy-Steel Castings for Structural Purposes (A 148 – 33 T), submitted by Committee A-1.

Specifications for High Tensile Strength Carbon-Steel Plates for Pressure Vessels (A 149 – 33 T), submitted by Committee A-1.

Specifications for High Tensile Strength Carbon-Steel Plates (over 2 in. up to and including 4 in. in thickness) for Fusion-Welded Pressure Vessels (A 150 – 33 T), submitted by Committee A-1.

Specifications for Wrought-Iron Rivets and Rivet Rounds (A 152 – 33 T), submitted by Committee A-2.

Specifications for Zinc Coating (Hot-Dip) on Hardware and Fastenings (A 153 – 33 T), submitted by Sectional Committee on Specifications for Zinc Coating of Iron and Steel.

High-Temperature Tests for Metallic Materials:

Method of Test for Short-Time High-Temperature Tension Tests of Metallic Materials (E 21 – 33 T), submitted by Joint Research Committee on Effect of Temperature on the Properties of Metals.

Method of Test for Long-Time (Creep) High-Temperature Tension Tests of Metallic Materials (E 22 – 33 T), submitted by Joint Research Committee on Effect of Temperature on the Properties of Metals.

Structural Clay Tile:

Specifications for Structural Clay Load-Bearing Wall Tile (C 34 – 33 T) (revision of standard), submitted by Committee C-10.

Specifications for Structural Clay Non-Load-Bearing Tile (C 56 – 33 T) (revision of standard), submitted by Committee C-10.

Specifications for Structural Clay Floor Tile (C 57 – 33 T) (revision of standard), submitted by Committee C-10.

Definitions of Terms Relating to Structural Clay Tile (C 43 – 33 T) (revision of standard), submitted by Committee C-10.

Refractories:

Methods of Testing High-Temperature Heat Insulation (Compression, Flexure, Shrinkage) (C 93 – 33 T), submitted by Committee C-8.

Concrete and Road Materials:

Specifications for Ready Mixed Concrete (C 94 – 33 T), submitted by Committee C-9.

Method of Test for Absorption by Aggregates for Concrete (Laboratory Determinations) (C 95 – 33 T), submitted by Committee C-9.

Method of Field Test for Absorption of Mixing Water by Aggregates for Concrete (C 96 – 33 T), submitted by Committee C-9.

Specifications for Concrete for Pavements (D 366 – 33 T), submitted by Committee D-4.

Paints and Paint Materials:

Specifications for Spirits of Turpentine (D 13 – 33 T) (revision of standard), submitted by Committee D-1.

Specifications for Wood to be Used as Panels in Accelerated Weather Tests of Paints and Varnishes (D 358 – 33 T), submitted by Committee D-1.

Specifications for Shellac Varnish (D 359 – 33 T), submitted by Committee D-1.

Specifications for Centrifuged Shellac Varnish (D 360 – 33 T), submitted by Committee D-1.

Specifications for Industrial 90 per cent Benzene (Benzol) (D 361 – 33 T), submitted by Committee D-1.

Specifications for Industrial Pure Toluene (Toluol) (D 362 – 33 T), submitted by Committee D-1.

Specifications and Methods of Test for Tricresyl Phosphate (D 363 – 33 T), submitted by Committee D-1.

Specifications for Industrial Xylene (Xylol) or Solvent Naphtha (D 364 – 33 T), submitted by Committee D-1.

Methods of Test for Soluble Nitrocellulose Base Solutions (D 365 – 33 T), submitted by Committee D-1.

Roofing Materials:

Specifications for Asphalt Cap Sheet Surfaced with Mineral Granules (D 371 – 33 T), submitted by Committee D-8.

Electrical Insulating Materials:

Specifications for Flexible Varnished Tubing Used in Electrical Insulation (D 372 – 33 T), submitted by Committee D-9.

Specifications for Black Bias-Cut Varnished Cloth Tape Used for Electrical Insulation (D 373 – 33 T), submitted by Committee D-9.

Methods of Testing Sheet and Tape Electrical Insulation for Thickness (D 374 – 33 T), submitted by Committee D-9.

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Methods of Testing:

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Method of Analysis for the Particle Size Distribution of Sub-Sieve Size Particulate Substances (E 20 – 33 T), submitted by Committee E-1.

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Society Connections in Non-Society Articles

Embarrassing situations may arise when an author's official Society connection is used in the publication of personally contributed articles (other than A.S.T.M. papers and reports) dealing with subjects upon which committees of the Society are engaged, because of an implied endorsement of the paper and its contents by the Society or by one of its committees not in the least intended by the author. The use of such official connection may come about entirely without the author's knowledge, being inserted by the editor of the journal publishing the paper.

Our members are asked to consider carefully this aspect of the use of official Society connections in discussions of topics upon which committees of the Society may be working. Editors are requested to consult with members of the Society before referring to such official connection. The Secretary-Treasurer will gladly give to members and editors information about Society activities that may serve to guide them in this matter.

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Members of the Society have been invited to attend and participate in the International Automotive Engineering Congress of the Society of Automotive Engineers to be held at the Palmer House, Chicago, August 28 to September 4. This S.A.E. meeting will be coordinated with attractions of special significance to members of the automotive and allied professions, including the International Air Races and Gordon Bennett Trophy competition. The Congress will cover technical phases of a wide field of automotive enterprise both in this country and abroad.

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Employment Opportunity

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Advance
Steadily
Through
Modernization

An interesting thought based on the initials A. S. T. M., as brought out by Past-President Chapman in his address at the recent annual meeting.

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Existing Standards to be Withdrawn

By action of the Society at the annual meeting, 22 of the existing standards will no longer be continued as standards in their present form. Of this number, 21 specifications and methods of testing will be superseded or replaced by newly adopted standards or revisions in the form of separate tentative standards, while only one of the existing standard specifications has been found to be in disuse and will accordingly be withdrawn. The standards which will no longer continue in their present form are as follows:

Ferrous Metals:

Specifications for Structural Steel for Ships (A 12 – 21) (replaced by Standard A 131 – 33).
Specifications for Rivet Steel for Ships (A 13 – 24) (replaced by Standard A 131 – 33).
Specifications for Cold-Rolled Steel Axles (A 22 – 21).
Specifications for Lap-Welded and Seamless Steel Pipe for High-Temperature Service (A 106 – 29) (replaced by Tentative Specifications A 106 – 33 T).
Specifications for Gray-Iron Castings (A 48 – 29) (replaced by Tentative Specifications A 48 – 32 T).
Specifications for High-Test Gray-Iron Castings (A 88 – 31) (replaced by Tentative Specifications A 48 – 32 T).

Clay Products:

Specifications for Clay Sewer Pipe (C 13 – 24) (replaced by Tentative Specifications C 13 – 32 T).

Gypsum:

Specifications for Gypsum Wall Board (C 36 – 25) (replaced by Tentative Specifications C 36 – 31 T).
Specifications for Gypsum Plaster Board (C 37 – 30) (replaced by Tentative Specifications C 37 – 31 T).

Turpentine:

Specifications for Gum Spirits of Turpentine and Steam-Distilled Wood Turpentine (D 13 – 26) (replaced by Tentative Specifications D 13 – 33 T).
Specifications for Destructively-Distilled Wood Turpentine (D 236 – 27) (replaced by Tentative Specifications D 13 – 33 T).

Waterproofing and Roofing Materials:

Specifications for Asphalt Roll-Roofing, Surfaced with Powdered Talc (D 224 – 27) (reverted to tentative, with revisions).
Specifications for Asphalt Roll-Roofing and Asphalt Shingles Surfaced with Mineral Granules (D 225 – 29) (reverted to tentative, with revisions).
Specifications for Asphalt Roll-Roofing Surfaced with Granular Talc (D 248 – 27) (reverted to tentative, with revisions).
Specifications for Heavy Weight Asphalt Roll-Roofing and Heavy Weight Asphalt Shingles Surfaced with Mineral Granules (D 249 – 27) (reverted to tentative, with revisions).

Rubber Products:

Specifications for Wrapped Air Hose for Use with Pneumatic Tools (D 46 – 24) (to be replaced by new tentative).
Specifications for Braided Air Hose for Use with Pneumatic Tools (D 60 – 24) (to be replaced by new tentative).
Specifications for Wrapped Cold Water Hose (D 177 – 24) (to be replaced by new tentative).
Specifications for Steam Hose (D 54 – 31 T) (to be replaced by new tentative).

Textile Materials:

Specifications for Tolerances and Test Methods for Electrical Silk and Cotton Tapes (D 259 – 27) (replaced by Tentative Specifications D 259 – 31 T).
Definitions of Terms Relating to Textile Materials (D 123 – 30) (replaced by Tentative Definitions D 123 – 33 T).

Testing Machines:

Methods of Verification of Testing Machines (E 4 – 27) (replaced by Tentative Methods E 4 – 33 T).

A.S.T.M. Viscosity-Temperature Chart Used for Non-Plastic Asphalts

Investigations on the viscosity and plasticity of plastic and non-plastic asphaltic bitumens recently reported by Dr. R. N. J. Saal and G. Koens in an interesting paper (*Journal*, Inst. Pet. Tech., Vol. 19, p. 176, 1933) show that the A.S.T.M. Viscosity-Temperature Chart (D 341 – 32 T) may be used for the viscous or non-plastic type asphalts as well as for lubricating oils. Their experiments show that it is possible to extend the useful range of the chart to 100,000,000,000 centistokes, which is equivalent to approximately 450,000,000,000 Saybolt seconds.

Dr. J. C. Geniesse (Atlantic Refining Co.), who reviewed the paper, reports that the two viscous asphalts chosen for the experiments had the following properties:

	A	*B*
Specific Gravity at 25 C	1.01	1.02
Melting Point, B. & R., in deg. Cent	33	50
Penetration 100 g. for 5 seconds at 0 C	5	....
" " " " " " 15 C	71	4.5
" " " " " " 25 C	250 +	28.5
" " " " " " 40 C	....	250 +
Ductility at 0 C	0	0
" " 15 C	100 +	100 +
Solubility in Petroleum Spirits at 80 C., per cent	99	99

Data were obtained in both a capillary and a Couette viscosimeter, at temperatures ranging from 5 C. to 125 C. The data fall on a straight line when plotted on the A.S.T.M. Viscosity-Temperature Chart extended by means of the mathematical equation used for its development. This is good news to those who use the chart since there was some question at the time of its development by Committee D-2 on Petroleum Products and Lubricants, concerning its usefulness for asphaltic products.

As a precautionary measure it must be remembered that the chart should not be used on plastic materials such as lubricating oils at temperatures below the cloud point or for blown asphalts, whose viscosity, at any given temperature, varies with the applied shearing stress. No two dimensional charts can be used for plastic materials.

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Agreement on Union Colorimeter Executed

The Society has recently executed an agreement with the Sinclair Refining Co., owners of the patent on the Union Colorimeter, authorizing an exclusive license to the C. J. Tagliabue Mfg. Co. to manufacture this instrument in accordance with the specifications of the Society. The Union Colorimeter is used in two A.S.T.M. methods of test, namely, Tentative Method of Test for Color of Lubricating Oils by Means of A.S.T.M. Union Colorimeter (D 155 – 32 T), and Tentative Method of Test for Color of Petrolatum by Means of A.S.T.M. Union Colorimeter (D 218 – 32 T). Both of these methods were written by A.S.T.M. Committee D-2 on Petroleum Products and Lubricants.

Where a standing committee desires to include in a standard of the Society the use of a patented instrument for which the committee has written specifications, the Executive Committee has ruled that "the owner and manufacturer thereof must give assurance satisfactory to the A.S.T.M. that a patent monopoly will not result in an exorbitant price to the consuming public." Several agreements covering types of instruments referred to in A.S.T.M. standards have been executed recently, notably in the case of the A.S.T.M.–C.F.R. engine.

Committee Standardization Activities

A brief summary of new projects to be undertaken by the standing committees is presented below. This supplements the detailed review of committee work in the annual reports presented at the annual meeting and further indicates the extensiveness of committee standardization work.

Consolidated steel castings specifications have been prepared by Committee A-1 on Steel, while studies are being made to consolidate specifications for steel rivets, for structural steel, and steel forgings. Specifications are being developed for alloy-steel still tubing, for filler metal for fusion welding in cooperation with the American Bureau of Welding, and for forgings, castings, bolting and pipe for use at temperatures up to 1100 F.

The present tentative specifications for zinc-coated iron or steel barb wire and farm fence and railroad right-of-way fencing will be reviewed and probably revised by Committee A-5 on Corrosion of Iron and Steel. Work is being continued on studies of industrial atmospheric laboratory tests.

Committee B-1 on Copper Wire will consider criticisms of the tentative specifications for hard-drawn copper transmission cable. Specifications for high-conductivity bronze trolley wire will be undertaken by the joint committee representing the American Railway Association, the American Transit Association and the A.S.T.M.

Committee B-5 on Copper and Copper Alloys is working on specifications for copper-silicon alloys in various forms, for copper for roofing purposes, and for wrought-copper alloy bearing plates for movable railway bridges.

In line with the plan for reorganization of Committee C-1 on Cement, eight working committees have been formed and are actively engaged on studies of methods of chemical analysis, fineness, plastic mortar, volume change and soundness of portland cement, plasticity, low-heat cements, blended cements and time of setting. The plastic mortar strength test program has been largely completed by the cooperating laboratories.

Committee D-2 on Petroleum Products and Lubricants will undertake work on a method for ductility or tensile strength of paraffin wax, a modification of the neutralization test, an amplification of the apparatus for determining autogenous ignition temperatures, and a newly developed electric method of titration for neutralization number. The Subcommittee on Classification of Transmission Lubricants and Automotive Greases in conjunction with the Society of Automotive Engineers is preparing a standard form of questionnaire to be sent out by oil companies to car manufacturers when information is desired about the lubrication requirements of their cars. Being worked out also on this same program is a system for classifying chassis lubricants. The Technical Committee on Gasoline has approved a method for the determination of preformed gum in gasolines which will be submitted to the Society through Committee E-10 on Standards.

The work of Committee D-5 on Coal and Coke will include studies for evaluating the Bureau of Mines agglutinating index test in terms of the caking characteristics of various coals when burned on grates. This test is believed to give information on the deterioration of coking properties of coal due to storage and on the caking characteristics of coals as related to the behavior of coals on small domestic stokers and in water-gas generators. Other experimental work includes methods for determining grindability and various methods for determining friability of coal. A Subcommittee on Sampling Coal at Cleaning Plants is being organized to develop methods for sampling coal at cleaning plants for float-and-sink tests and analysis.

Committee D-8 on Bituminous Waterproofing and Roofing Materials is considering further revisions of the specifications for surfaced asphalt roll-roofing to take into account rather general changes in manufacturing practice, involving the use of fillers in coatings, a practice which is not contemplated in the present specifications. In addition, the specifications for asphalts for saturants and coatings in built-up roofing are to be studied and revised so as to insure more satisfactory materials. A proposed tentative method for accelerated weathering of asphaltic coatings is being considered. Methods of test for bituminous emulsions are expected to be completed before the next annual meeting and studies are being made of specifications for these materials. A report of the research work on bituminous joint compounds for sewer pipe is expected for the next annual report of Committee D-8.

Committee D-17 on Naval Stores will carry on additional cooperative studies on methods of analysis including determination of saponification number, acid number and unsaponifiable, together with ash and toluol insoluble; also further studies of viscosity tests.

Committee E-4 on Metallography will initiate two new lines of work, one to secure a recommended practice for dilatometric analysis; the other to study the structure of tool steels with the view to compiling information similar to that for the grain size chart for classification of steels. Studies on spheroidization, proposed several years ago, will be continued. Considerable progress has been made on the revision of standard methods of metallographic testing of all metals and alloys, both ferrous and non-ferrous, to be combined into one recommended practice.

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NECROLOGY

We announce with regret the death of the following:

EARL V. ALDRIDGE, Manager, Sack Bureau, Universal Atlas Cement Co., Chicago, Ill. Member since 1916. Mr. Aldridge was a member of Committee D-13 on Textile Materials.

PHILIP H. BEVIER, Chief Engineer, National Fireproofing Corp., New York City. Mr. Bevier represented his company in the Society and on Committee C-5 on Fire Tests of Materials and Construction and Committee C-10 on Hollow Masonry Building Units.

DANIEL CARROLL, President, The Carroll Chain Co., Columbus, Ohio. Member since 1924. Mr. Carroll was a member of Committee A-2 on Wrought Iron.

ALEXANDER CHURCHWARD, Technical Director, Wilson Welder and Metals Co., Inc., North Bergen, N. J. Member since 1909.

MORRIS KIND, President, Hercules Cement Corp., Philadelphia, Pa. Mr. Kind represented his company in the Society and on Committee C-1 on Cement.

W. D. LOBER, President, Vulcanite Portland Cement Co., Philadelphia, Pa. Mr. Lober, long a representative of his company in the Society and on Committees C-1 on Cement and D-13 on Textile Materials took a leading part in emphasizing to his industry the importance of A.S.T.M. activities and contributed much of his time and energy in furthering the work of the Society.

T. OTTO MAYER, Civil Engineer, Philadelphia, Pa. Member since 1921.

J. R. MCCLINTOCK, Civil Engineer, Fuller & McClintock. Member since 1919.

G. F. MEEHAN, President, Ross-Meehan Foundries, Chattanooga, Tenn. Member since 1918.

LEE H. MILLER, Chief Engineer, American Institute of Steel Construction, Cleveland, Ohio. Member since 1929. Mr. Miller was a member of Committee A-1 on Steel and the Research Committee on Yield Point of Structural Steel.

O. M. OLSEN, Superintendent, William Zinsser and Co., Inc., New York City. Member since 1922. Mr. Olsen was a member of Committee D-1 on Preservative Coatings for Structural Materials.

EDWIN T. WOOD, Metallurgical Engineer, Wheeling Steel Corp., Wheeling, W. Va. Member since 1910.

Personals

News items concerning the activities of our members will be welcomed for inclusion in this column.

J. L. VAN ORNUM, for many years Professor of Civil Engineering, Washington University, St. Louis, is now retiring from active duty.

G. H. CLAMER (Past-President, A.S.T.M.), President and General Manager, Ajax Metal Co., was awarded the Joseph S. Seamon Gold Medal at the recent annual convention of the American Foundrymen's Association. The award was in recognition of his outstanding achievements in the metal casting industry. Mr. Clamer has also been awarded the honorary degree of Doctor of Science by Ursinus College.

T. S. TAYLOR has established testing and engineering research laboratories at Caldwell, N. J. Doctor Taylor was formerly Chief Research Physicist, Bakelite Corp.

D. J. MCADAM, JR., Metallurgist, U. S. Bureau of Standards, Washington, D. C., was recently awarded the Longstreth Medal by the Franklin Institute for his work in helping to establish the fundamental principles of corrosion fatigue.

C. G. E. LARSSON, Chief Consulting Engineer, American Bridge Co., is retiring from active duties.

W. H. WHITCOMB is now Director of Laboratories, Interlaken Mills, West Warwick, R. I.

N. F. HARRIMAN, formerly Executive Chairman, Federal Purchasing Board, U. S. Bureau of the Budget, is now Vice-Chairman, Federal Specifications Board, U. S. Bureau of Standards.

W. P. WILTSEE, Chief Engineer, Norfolk & Western Railway Co., has been elected President of the American Railway Engineering Assn.

C. P. FORTNEY has resigned his chairmanship of the West Virginia State Road Commission and is now engaged in consulting engineering work.

CHARLES PACK and L. H. MORIN have established consulting engineering offices in New York City, under the firm name Pack-Morin.

OTIS E. HOVEY, Consulting Engineer, American Bridge Co., was awarded the honorary degree of Doctor of Science by Clarkson College of Technology.

M. S. EVANS, formerly Engineer of Tests, Department of Public Works, Allegheny County, Pa., is now Testing Engineer, Pittsburgh Testing Laboratory, St. Louis, Mo.

E. B. WHITMAN is now Chief Engineer, West Penn Electric Co., Pittsburgh, Pa.

L. A. BAUER is now in the Engineering Research Dept., E. G. Budd Manufacturing Co., Philadelphia. He was formerly with the American Airplane Corp.

ARTHUR W. GRAY has been appointed Consulting Physicist, Baker and Co., Inc., Newark, N. J.

H. A. SCHWARTZ, Manager of Research, National Malleable and Steel Castings Co., has been awarded the honorary degree of Doctor of Science by Rose Polytechnic Institute.

A. M. STEEVER, formerly Metallurgical Engineer, Great Lakes Forge Co., Chicago, has been appointed Vice-President Technical Director, The Lindberg Steel Treating Co., Chicago.

D. M. AVEY, Editor, *The Foundry*, has been elected Vice-President, American Foundrymen's Assn., and R. F. HARRINGTON, Metallurgist, Hunt-Spiller Mfg. Corp., Boston, Mass., and J. L. WICK, President, The Falcon Bronze Co., Youngstown, Ohio, were elected directors.

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Addresses Wanted

Anyone knowing the present address of any of the following members, whose last known addresses are listed below, is asked to notify the Secretary-Treasurer:

W. T. Brown, Manager, Tar Products Division, The Neville Co., Neville Island, Pa.

Charles H. Day, Vice-President, Gates-Day Aircraft Corp., Paterson, N. J. For mail: Ridgewood Arms Apartment, 600 Maltbie Ave., Ridgewood, N. J.

LeRoy E. Kern, Consulting Engineer, 11 W. Forty-second St., New York City.

Ralph M. Shankland, Consulting Engineer, Shankland & Stearns, 101 Park Ave., New York City.

Douglas S. Thropp, 418 Central Park West, New York City.

New Members to July 19, 1933

The following 40 members were elected from May 11 to July 19, 1933:

Company Members (2)

Waugh Equipment Co., H. D. Page, Mechanical Engr., 420 Lexington Ave., New York City.

Waukesha Motor Co., H. L. Horning, President, Waukesha, Wis.

Individual and Other Members (36)

Ambelang, C. E., Assistant Engr., Public Service Co. of Northern Illinois, 72 W. Adams St., Chicago, Ill.

Bacon, G. C., Technical Director, The Zapon Co., Stamford, Conn.

Benham, S. W., Research Engr., Indiana State Highway Commission, Dept. of Materials and Tests, Indianapolis, Ind.

Birch, R. E., Research Engr., Harbison-Walker Refractories Co., 1800 Farmers Bank Bldg., Pittsburgh, Pa.

Bronson, Deming, Manager, Pipe Wrapping Dept., Hill, Hubbell and Co., 620 Orleans St., Chicago, Ill.

Bryant, C. B., Materials Engr., Maryland State Road Commission, Federal Reserve Bank Bldg., Baltimore, Md.

Cartwright, B. H., Manager, The John W. Karch Stone Co., R. F. D. No. 5, Celina, Ohio.

Clayton, H. D., Manager, Bleaching, and Finishing and Sanforizing Plant, Cluett, Peabody & Co., Inc., Waterford, N. Y.

Cosler, V. A., Technical Superintendent, Hewitt-Gutta Percha Rubber Corp., Buffalo, N. Y.

Diaz, Amaury, Diaz y Nava, 6a. Frontera No. 124, Mexico, D. F., Mexico.

Finck, H. F., President and Chief Engr., Container Testing Labs., Inc., 300 Fourth Ave., New York City.

Fromlet, V. H., Chief Inspector, Bureau of Building, City of New York, 2000 Municipal Bldg., New York City.

Heckert, H. D., Manager, Southern District, Pittsburgh Testing Lab., 1706 Second Ave. N., Birmingham, Ala.

Hendershot, W. P., Standards Engr., General Motors Truck Corp., South Boulevard Plant, Pontiac, Mich.

Howard, G. E., Chem. and Industrial Engr., 321 Telegraph Bldg., Harrisburg, Pa.

Isom, E. C., Manager, Paint Dept., Sinclair Refining Co., 45 Nassau St., New York City.

Kovacs, Frank, Development Manager, Thiokol Corp., Yardville, N. J.

Laboratorio de la Comision Nacional Irrigación, Federico Barona, Jefe del Laboratorio, Ayuntamiento y Balderas, Mexico, D. F., Mexico.

Lipps, W. M., Automotive Engr., Russell Mfg. Co., Middletown, Conn. For mail: 122 E. Angella Boulevard, South Bend, Ind.

McCormick, E. J., Licensed Professional Engr., 161 Pierrepont St., Brooklyn, N. Y.

Payton, Lyle, City Engr., Stockton, Calif.

Raine, W. A., Assistant Chief Chemist, The Pure Oil Co., 35 E. Wacker Drive, Chicago, Ill.

Read, W. V., Consulting Engr. on Corrosion Prevention, 11 Park Place, New York City.

Renaud, E. G., Directeur Administratif, des Usines d'Aulnoye, Sté. Louvroil & Recquignies, Aulnoye, Nord, France.

Shipley, S. C., Chief Production Engr., Minneapolis-Honeywell Regulator Co., 2747 Fourth Ave. S., Minneapolis, Minn.

Shryock, J. G., Vice-President and Chief Engr., Belmont Iron Works, Twenty-second St. and Washington Ave., Philadelphia, Pa.

Smyth, R. J., Assistant Engr. of Design, Office of the President of the Borough of The Bronx, Borough Hall, Bronx, New York City. For mail: 1625 Undercliff Ave.

Spencer, A. L., Jr., Metallurgist, Pittsburgh Screw and Bolt Corp., Box 752, Pittsburgh, Pa.

Steven, James, Jr., Secretary and Treasurer, National Stone Setting Contractors Assn., 119 Miller St., St. Louis, Mo.

Tennent, G. R., Chief Chemist, Hummel-Ross Fibre Corp., 507 Brown Ave., Hopewell, Va.

Tijmstra, S., Chem. Engr., Shell Development Co., Emeryville, Calif.

Titley, R. H., Materials Division Chief, Public Service Elec. and Gas Co., Irvington, N. J. For mail: 31 Bryant Ave., Springfield, N. J.

Warr, F. A., Technical Supervisor, The American Brass Co., Ansonia, Conn. For mail: 44 Maple St., Milford, Conn.

Wilson, Hewitt, Professor of Ceramic Eng., Department of Ceramic Eng., University of Washington, Seattle, Wash.

Yamamoto, Hisayoshi, Lieutenant Commander, Imperial Japanese Navy, Inspectors' Office, Room 212, 1 Madison Ave., New York City.

Young, E. R., Metallurgical Engr., Climax Molybdenum Co., New York City. For mail: 15 E. Bethune Ave., Detroit, Mich.

Junior Members (2)

McKay, C. E., Testing Engr., Western Labs., San Francisco, Calif. For mail: 434 Twenty-ninth Ave.

Uribe, Federico, Assistant Highway Engr., Colombian Government, Bugalagrande, Valle, Colombia.

PROFESSIONAL CARDS

PROFESSIONAL CARDS will be accepted for inclusion on this page from Consulting Engineers, Metallurgists, Chemists, Testing Engineers and Testing Laboratories.

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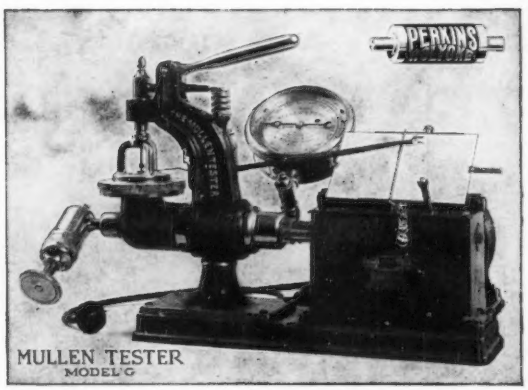

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SEPARATES

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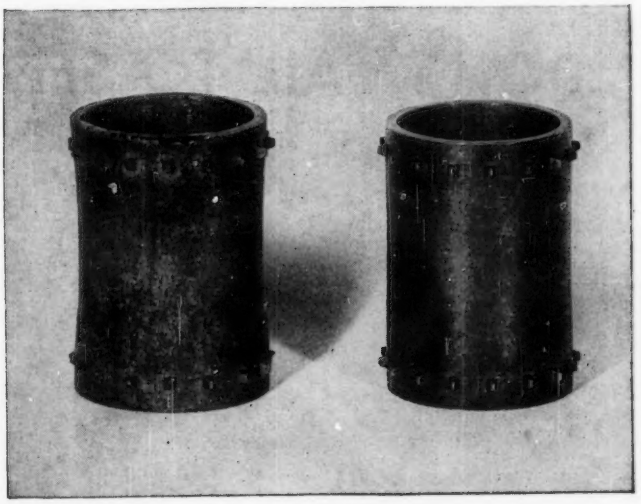


When the Product Goes Wrong—

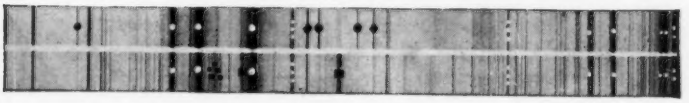
Look to the raw materials for the answer!

Both spools illustrated above were made from a standard die cast alloy of the 93% zinc, 4% aluminum, 3% copper type, but in one the tin was high, without sufficient magnesium to compensate. The resulting crystal growth caused the deformity which rendered the spool unusable.

In this case a small sample and one and one-half hours of time were necessary to make the spectrographic analysis. The wet method would have required several days of waiting and working with a 500 gram sample.

Modern alloys with their rigid limits of such elements as cadmium, magnesium, etc., in many cases cannot possibly be held to specifications by any means other than the sensitive, rapid spectrographic method.

Spectrography warrants your careful investigation. Send for complete details.



A short section from a spectrographic plate of the two sprocket spools pictured above. The spool which failed gave the first spectrogram, note strong tin lines (marked with black circle). The good spool gave the second spectrogram. Note absence of tin and presence of magnesium (marked with black square). Spectrography gives the entire analysis in one picture.

1933 A CENTURY OF PROGRESS CHICAGO

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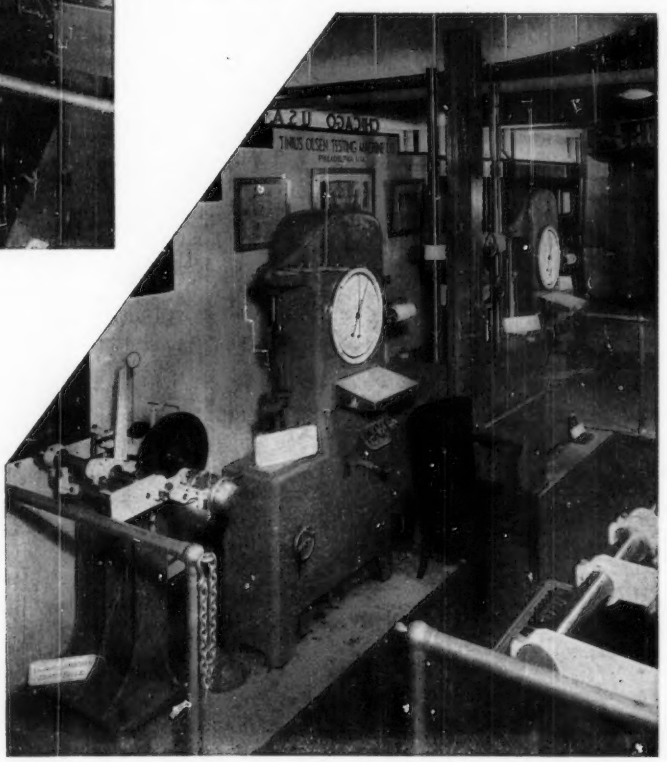

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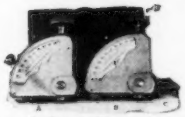

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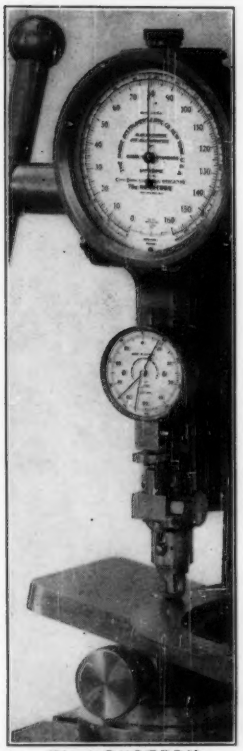

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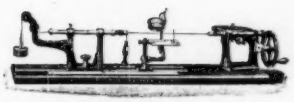

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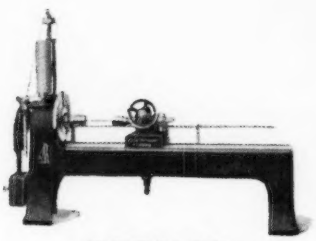

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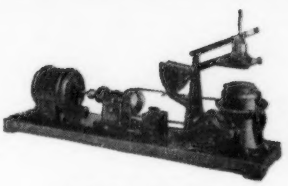

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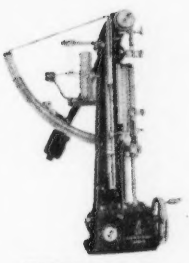

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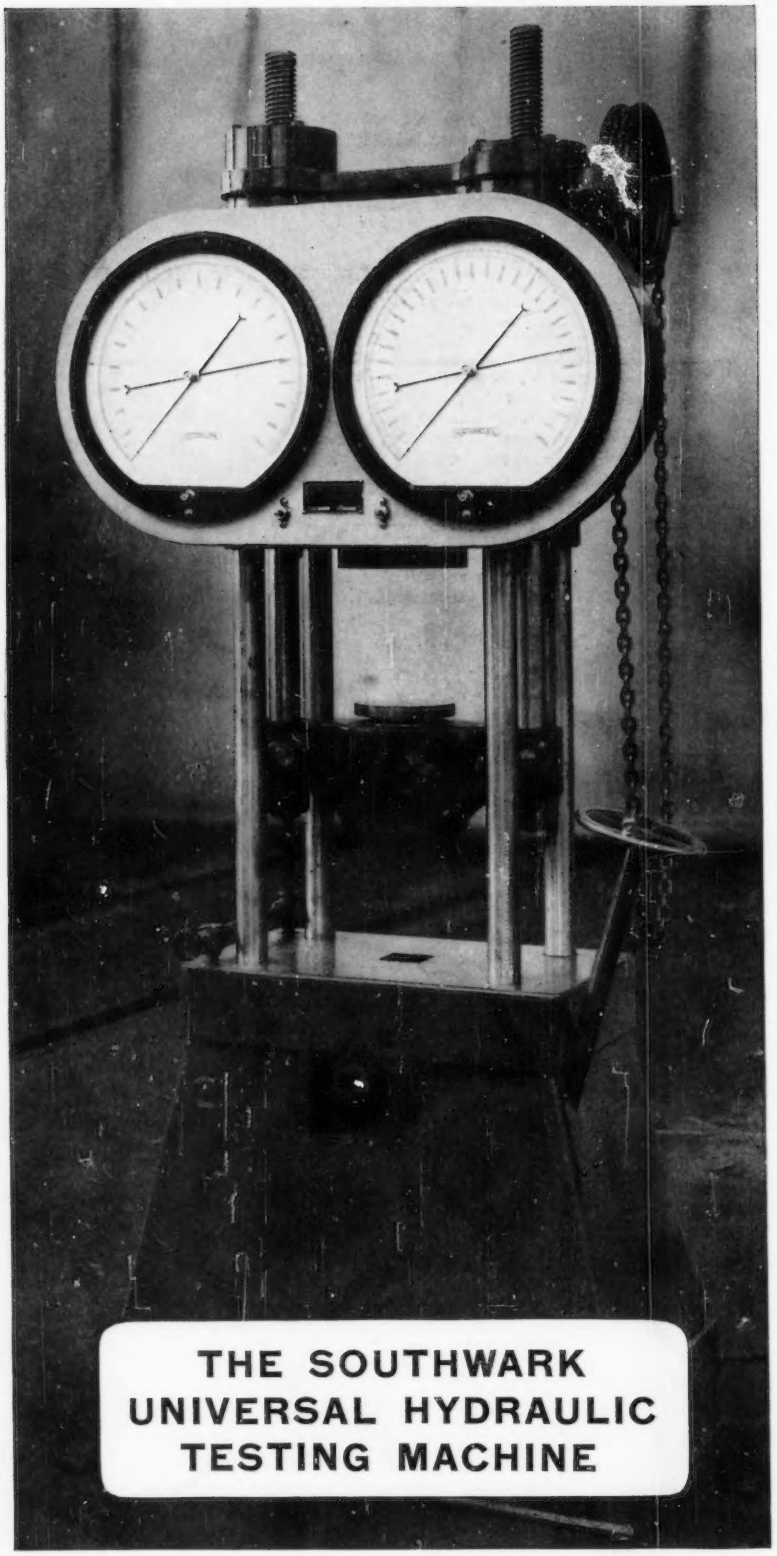

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